Vector competence of 7 rhipicephalid tick stocks in transmitting 2 Theileria parva parasite stocks from Kenya and Zimbabwe

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Date: 1998

Abstract:

The competence of 7 different stocks of Rhipicephalus appendiculatus and R. zambeziensis to transmit 2 different stocks of Theileria parva was compared by feeding nymphae of each tick stock simultaneously on infected cattle and assessing the infections in the salivary glands of the resultant adult ticks. There were significant differences in the patterns of infection of the 2 stocks (T. parva Muguga and T. parva Boleni) in the different stocks of ticks, and these differences were shown to be reproducible. The Muguga tick stock from Kenya and the Zambia tick stock from Eastern Province had the highest infections of T. parva Muguga and T. parva Boleni respectively. The Zambia Southern Province tick stock and the Zimbabwe Mashonaland West tick stock had the lowest infections of T. parva Muguga and T. parva Boleni respectively. The difference in mean abundance of infection between the most and least efficient vector for T. parva Muguga was 63.3 while that for T. parva Boleni was 54.4 infected acini. The implications of these results for laboratory transmission of T. parva and for the epidemiology of theileriosis are discussed.